

Candidate 1 (Question 5)

5. Guests at a wedding were asked to choose their main course.

- $\frac{3}{7}$ of the guests chose chicken
- $\frac{1}{3}$ of the guests chose beef
- the remaining guests chose the vegetarian option.

Calculate the fraction of guests that chose the vegetarian option.

$$\frac{1}{3} = 0.30 \quad \frac{3}{7} = 0.21 \quad \frac{49}{100} \text{ ~~100~~ }$$

Candidate 2 (Question 5)

5. Guests at a wedding were asked to choose their main course.

- $\frac{3}{7}$ of the guests chose chicken
- $\frac{1}{3}$ of the guests chose beef
- the remaining guests chose the vegetarian option.

Calculate the fraction of guests that chose the vegetarian option.

$$\frac{3}{7} + \frac{1}{3} = \frac{9}{21} + \frac{7}{21} = \frac{16}{21}$$
$$1 - \frac{16}{21} = \frac{21}{21} - \frac{16}{21} = \frac{5}{21}$$

Candidate 3 (Question 6)

~~$46 \overline{) 27.2}$~~

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No, the answer is 72.5

$$\begin{array}{r} 61 \\ 27.2 \\ - 4.6 \\ \hline 22.6 \\ \times 3 \\ \hline 67.8 \\ + 4.7 \\ \hline = 72.5 \end{array}$$

Candidate 4 (Question 6)

$$27.2 - (4.6 \times 3) + 4.7$$

Is Tom correct?

Use your working to justify your answer.

~~6.43 =~~

$$\begin{array}{r} \cancel{6} \\ \times \cancel{3} \\ \hline \cancel{18} \\ + \cancel{4.7} \\ \hline \cancel{22.7} \end{array}$$

$$\begin{array}{r} \cancel{14} \\ \times \cancel{3} \\ \hline \cancel{42} \\ + \cancel{138} \\ \hline \cancel{180} \end{array}$$

$$\begin{array}{r} \cancel{14} \\ \times \cancel{3} \\ \hline \cancel{42} \\ + \cancel{138} \\ \hline \cancel{180} \end{array}$$

$$\begin{array}{r} \cancel{27.2} \\ + \cancel{4.7} \\ \hline \cancel{31.9} \end{array}$$

$$\begin{array}{r} \cancel{21} \\ - \cancel{31.9} \\ \hline \cancel{1.9} \end{array}$$

Candidate 5 (Question 11)

$$\textcircled{1} A = 1 \times b \div 2$$

$$A = 34 \times 20$$

$$A = \underline{\underline{680}}$$

$$680 + 680 + 9.56 + 9.56$$

$$\begin{array}{r} = 680 \\ + 680 \\ + 9.56 \\ \hline 9.56 \quad 1379.12 \\ \hline 1379.12 \quad + 208 \\ \hline \underline{\underline{1381.92}} \end{array}$$

$$\textcircled{2} C = \pi D$$

$$C = 3.14 \times 34$$

$$C = 9.56$$

$$\begin{array}{r} 3.14 \\ \times \quad 34 \\ \hline 9.56 \end{array}$$

Candidate 6 (Question 11)

Calculate the length of ribbon needed for the cake.

Take $\pi = 3.14$.

$$\begin{aligned} \text{Perimeter} &= 40 + 40 \\ &= 80 + 2.8 = \underline{\underline{82.8 \text{ cm}}} \end{aligned}$$

$$A \text{ of circle} = \pi r^2$$

①

$$= 3.14 \times 10^2$$

$$= 3.14 \times 100 = 314 \div 2$$

$$\begin{array}{r} 157 \\ 2 \overline{) 314} \\ \underline{314} \\ 0 \end{array} \quad \times \frac{157}{2} = \text{Two half-circles}$$

Pythagoras: shorter side

$$= a^2 = c^2 - b^2$$

$$a^2 = 40^2 - 34^2$$

$$= \cancel{100} 314$$

$$+ 34$$

$$\underline{34}$$

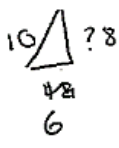
$$\underline{\underline{382 \text{ cm}}} = \underline{\underline{3.82 \text{ m}}}$$

$$382 + 2.8 = \underline{\underline{384.8 \text{ cm}}}$$

Candidate 7 (Question 13)

Calculate the area of the lawn.

$$\begin{aligned}C &= A^2 + B^2 \\ &= 10^2 + 2^2 \\ &= 100 + 4 = 244 \text{ cm}^2\end{aligned}$$

Candidate 8 (Question 13)
$$A = \frac{1}{2} bh$$
$$= \frac{1}{2} \times 12 \times 8$$
$$= \frac{1}{2} \times 96$$
$$= \underline{\underline{48\text{m}^2}}$$

$$\begin{array}{r} 10 \\ \times 8 \\ \hline 80 \\ \\ \times 6 \\ \hline 60 \\ \hline 80 \end{array}$$
$$\text{hyp}^2 = a^2 + b^2$$
$$= 10^2 + 6^2$$
$$10^2 = 6^2 + b^2$$
$$100 = 36 + b^2$$
$$b^2 = 64$$
$$b = 8\text{m}$$
$$\begin{array}{r} 48 \\ \times 2 \\ \hline 96 \end{array}$$

Candidate 9 (Question 14)

To win a prize the answer to this multiplication must be less than 5.

Calculate the probability of winning a prize.

$1 \times 0 = 0$ $2 \times 0 = 0$ $3 \times 0 = 0$ $4 \times 0 = 0$ $5 \times 0 = 0$ $6 \times 0 = 0$
 $1 \times 1 = 1$ $2 \times 1 = 2$ $3 \times 1 = 3$ $4 \times 1 = 4$ $5 \times 1 = 5$
 $1 \times 2 = 2$ $2 \times 2 = 4$ $3 \times 2 = 6$ $4 \times 2 = 8$
 $1 \times 3 = 3$ $2 \times 3 = 6$
 $1 \times 4 = 4$ $2 \times 4 = 8$
 $1 \times 5 = 5$ $2 \times 5 = 10$
 $1 \times 6 = 6$ $2 \times 6 = 12$

$7 \times 5 = 35$

$13 : 35$
=

AAAL

Candidate 10 (Question 14)

~~(12 different combinations)~~

$\frac{12}{36}$

$\frac{1}{3}$

$(5 \times 10 = 20)$

2×2
 ~~2×3~~

1×2

Combinations

$= 1 \times 1 = 1 \times 2$

$= 1 \times 2 = 2$

$= 1 \times 3 \cdot x$

$x 1 \times 4$

$x \times 5$

Candidate 11 (Question 15)

$25\text{cm} = 0.25\text{m}$ $(4, 0.25)$ $(0, 0)$

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0.25 - 0}{4 - 0} = \frac{0.25}{4}$

~~$(4, 0.25)$ $(0, 0)$~~

~~$\frac{0.25}{4} = \frac{1}{16}$~~

~~$\frac{1.75}{28} = \frac{2}{28}$~~

~~$\frac{0.25}{4} = \frac{1}{14}$~~

~~$\frac{1.75}{28} = \frac{2}{28}$~~

$\frac{0.25}{4} = \frac{1}{14}$

$\frac{1.75}{28} = \frac{2}{28}$

Yes ~~no~~ the gradient does ~~not~~ meet regulations
 as it is ^{less steep} ~~steeper~~ than the maximum gradient
 by ~~the~~ $\frac{0.25}{28}$

Candidate 12 (Question 15)

$$\frac{25}{4}$$